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Reports  
Nachlinger,  
J.

## Reconnaissance Report

for

Humboldt National Forest  
Ely Ranger District

Cleve Creek Baldy  
Potential Research Natural Area

Report prepared for:

Intermountain Research Station  
USDA, Forest Service  
324 25th Street  
Ogden, Utah 84401

Report prepared by:

Jan Nachlinger  
The Nature Conservancy  
Nevada Public Lands Program  
133 N. Sierra Street, Suite 204  
Reno, Nevada 89501

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**Reconnaissance Report  
Summary Page**

**Area Name:** Cleve Creek Baldy

**National Forest:** Humboldt

**Ranger District:** Ely

**Quadrangles:** Cleve Creek Baldy and Cave Creek, 7.5 minute series

**General Location:** About 19 km (12 mi) east of Ely in the northern half of the Schell Creek Range, southeastern White Pine County, Nevada.

**Size:** 400 acres

**Physiographic Region:** Great Basin

**Major Cells Present:**

Subalpine forest: Open and closed stands of *Picea engelmannii*-*Ribes montigenum*;  
Subalpine shrublands: *Artemisia tridentata* ssp. *vaseyana*-*Agropyron spicatum*,  
*Artemisia tridentata* ssp. *vaseyana*-*Poa fendleriana*, and *Haplopappus macronema*-  
*Agropyron spicatum*;  
Subalpine/alpine steppe: *Poa rupicola*-*Erigeron compositus*;  
Subalpine/alpine shrubland: *Artemisia arbuscula*-*Poa sandbergii*;  
Alpine forbland: *Artemisia frigida*-*Phlox pulvinata*.

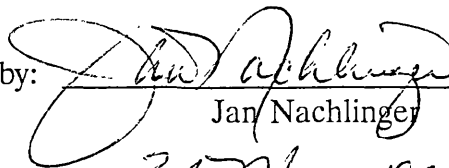
**Additional Features:**

Habitat for *Silene nachlingerae*, a federal category 2 candidate.  
Large deer and elk herds.

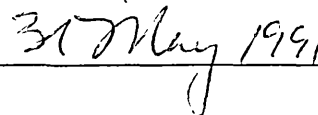
**Recommendation:**

The Cleve Creek Baldy area would make a good contribution to the RNA system because it holds exemplary subalpine and alpine targets in good condition. I recommend that the INT/R4 RNA Committee formally nominate the Cleve Creek Baldy candidate RNA to the Regional Forester, and plan for the completion of an Establishment Record. I further recommend that this reconnaissance report be made available to the Humboldt National Forest to help complete the required environmental assessment.

Prepared by:

  
Jan Nachlinger

Date:

  
31 May 1991

**Cleve Creek Baldy  
Ely District  
Humboldt National Forest**

## **Introduction**

The *Regional Guide for the Intermountain Region* states that Research Natural Areas (RNAs) are to be established as part of the national system of RNAs to promote and protect biological diversity (U.S. Department of Agriculture, 1984). The national RNA system will eventually include representative and unique examples of forest, shrubland, grassland, alpine, aquatic, and geologic targets that have special characteristics of scientific interest and importance. A workshop held in 1982 and directed at identifying RNA needs in Nevada and Utah indicated that the Great Basin Province was lacking representation of alpine lands (Van Pelt, 1982). Cleve Creek Baldy was identified in the workshop's resulting document as one of several areas of known importance for its alpine ecosystems. Further inquiry about the nature of the Cleve Creek Baldy area indicated that subalpine forest and meadow communities, along with alpine communities, were well-represented.

The purpose of this reconnaissance-level survey was to evaluate the quality of the Cleve Creek Baldy area as a potential RNA to represent subalpine and alpine terrestrial communities. Presence of the target communities in sound condition was the essential consideration, but other basic qualifying criteria, such as minimum size (> 300 ac) and relative lack of human-caused disturbances, were evaluated. The quality of the plant communities at Cleve Creek Baldy was considered in light of other known areas with the same communities present to determine whether the area was the best choice for representation of the target cells of interest. The most suitable boundary for an RNA was appraised on site primarily by taking ecological needs into consideration, however, management concerns were kept in mind as well.

The Ely Ranger District Office was visited on 23 and 27 July 1990 to meet with staff and discuss land status, uses, and current management of the Cleve Creek Baldy area (Paul Demeule, Jeff Jones, Toby Rhue, Rita Suminski, and Wayne Swensen, personal communications). When potential conflicts with a RNA designation for the area surfaced, possible solutions were discussed. The field reconnaissance survey of Cleve Creek Baldy was conducted on 26 July by myself and volunteers, Michael and Sally Yost.

## **General Description**

The Schell Creek Range is a classic Great Basin range—a long and narrow mountain chain with a high profile and rugged topography resulting from movement along north-

trending faults (McLane, 1978). It lies within the eastern part of the Great Basin section of the Basin and Range physiographic province (Fenneman, 1931). The high point of the range is North Schell Peak at 3,622 m (11,883 ft) in elevation in the northern half of the chain. Cleve Creek Baldy is 17.7 km (11 mi) to the south of North Schell Peak. It is a subalpine and alpine area crowned by a rounded 3,335 m (10,942 ft) "bald" crest.

The Schell Creek Range is composed of folded and faulted blocks of igneous, metamorphic, and sedimentary rocks. Limestone is the dominant rock type.

The vegetation of Cleve Creek Baldy is comprised of subalpine forest, shrubland, and grassland communities, and alpine forbland communities. The area is floristically classified within the Calcareous Mountains section of the Great Basin division of the Intermountain region (Cronquist *et al.*, 1972). Floristically, it is more similar to the Rocky Mountains region than to other sections of the Great Basin division.

### Location and Access

Cleve Creek Baldy is in White Pine County about 19 km (12 mi) east of Ely at the southern end of the north half of the Schell Creek Range (Maps 1 and 2). The subalpine-alpine area lies about 4.8 km (3 mi) east of Success Summit and 24 km (15 mi) north of Conners Pass located on U.S. Highway 50. The legal description of its location is Township 16 North, Range 65 East, unsurveyed sections, Mount Diablo Meridian. When extrapolated from adjacent surveyed areas, it lies within sections 10 and 15. The summit of Cleve Creek Baldy is latitude 39° 15' 40" North, longitude 114° 38' 45" West. Useful maps for the area include U.S. Forest Service Ely Ranger District (1/2 in/mi scale), U.S. Geological Survey 15 minute series Schell Peaks and Conners Pass, and U.S.G.S. 7.5 minute series Cleve Creek Baldy and Cave Creek.

Access is made from both the west and east on forest roads and trails, and eventually cross-country travel, although the approach from the west is shorter and easier. A two-wheel-drive vehicle is sufficient. To approach the west side, drive south from Ely on U.S. Highways 6, 50, & 93 about 6 km (3.8 mi) to Steptoe Creek Road (State Route 486 and Forest Route FH23). Turn east and continue up this road, which eventually turns north, and drive 0.5 km (0.3 mi) north of Success Summit to the Duck Creek crossing. Turn east on Forest Route 424 and drive along Duck Creek about 0.8 km (0.5 mi) to the roadend. Take the easy hike along Forest Trail 073 northeast up the drainage about 2.3 km (1.4 mi) to the saddle area just west of Cleve Creek Baldy (Photo 1). The summit area is a short cross-country jaunt from here.

To approach from the east, drive south from Ely on U.S. Highways 6, 50, & 93 about 40 km (25 mi) to Majors. Continue on U.S. Highways 6 & 50 for about 3 km (2 mi) to the paved Spring Valley Road situated on the west side of the valley. Turn north

and drive about 19.3 km (12 mi) to the Cleve Creek Campground Road (Forest Route 435). Turn northwest and continue for 9.7 km (6 mi) to the junction for the Kolcheck Mine. Because this route was not taken, it is unclear how far one can travel by two-wheel-drive vehicle beyond this junction. Hiking from this point would be relatively short, but laborious because of the steep slopes involved. Either hike cross-country up the eastern slopes of Cleve Creek Baldy or hike up the road to the mine and the slopes beyond to the area.

## **Land Status**

The area lies completely within lands administered by the Ely Ranger District of the Humboldt National Forest. There are no cabins, administrative sites, utility corridors, roads, communication sites or in-holdings within the immediate Cleve Creek Baldy area. Forest Trail 073 passes into the western edge of the proposed boundary. The summit area has a few old pieces of lumber and rusty guy wires scattered about.

There are no mining claims within the Cleve Creek Baldy area. The area has low potential for energy and mineral development. The status of oil and gas leasing was not researched for this report. No conflicts with mineral and energy interests are foreseen.

There are several grazing allotments in the Cleve Creek Baldy area. To the west of the crest are the Boneyard/Steptoe Creek/Duck Creek sheep allotments each presently permitted for 624 head from 15 June through 15 September. To the east of the crest is the Cleve Creek sheep allotment permitted for 900 head from 15 June through 19 September with a deferred rotation schedule. Management of these allotments stipulates avoidance of the crest because of erosion problems. Little evidence of past grazing by domestic livestock was observed during the field visit. Forage production is relatively low at the high elevations of the area. In light of the current management situation, no conflict from grazing interests are anticipated.

Recreational use in the Cleve Creek Baldy area is primarily restricted to hiking and hunting activities, although caving may be another recreational opportunity in this region. Camp Success, a heavily-used boy scout camp, is located about 6.5 km (4 mi) west of the area. Nevertheless, trail use along the access trail appeared very light. The Schell Creek Range has deer and elk, which are hunted, although no evidence of hunting camps were seen in the area. No conflicts with recreational activities or wildlife values are expected.

## **Primary Features**

The Cleve Creek Baldy area harbors several subalpine and alpine plant communities in good condition. The following descriptions are tentative because they are based on one

short field visit and meager plant collecting for purposes of identifying the dominants.

The west and north areas of Cleve Creek Baldy harbor open and closed stands of *Picea engelmannii*-*Ribes montigenum* (Eyre, 1980). Individuals of *Pinus longaeva* and *P. flexilis* are present. Understory is sparse and includes *Agropyron spicatum*, *Sitanion hystrix*, *Poa fendleriana*, *Stipa columbiana*, *Mahonia repens*, and *Castilleja linariifolia*. Individual Engelmann spruce trees become stunted and skirted (with recumbent lower limbs) at treeline (Photos 1-4).

The open slopes around the Engelmann spruce stands are clothed with the subalpine *Artemisia tridentata* ssp. *vaseyana*-*Agropyron spicatum* and *A. tridentata* ssp. *vaseyana*-*Poa fendleriana* communities (Mooney, 1985; Jensen *et al.*, 1988a and 1988b). In some areas the mountain big sagebrush has been frost killed and replaced by *Haplopappus macronema*. Common species in these communities include *Poa sandbergii*, *Achillea millefolium*, *Agoseris glauca*, and *Astragalus* sp (Photo 2).

Above the mountain big sagebrush communities lies another subalpine shrubland dominated by *Haplopappus macronema*-*Agropyron spicatum*. Several herbaceous perennials are present among the shrubs and bunchgrasses. Soil surface is rocky and the community is very open (Photo 4).

An even lower-growing shrubland of *Artemisia arbuscula*-*Poa sandbergii* is found in a mozaic with the other subalpine shrublands (Jensen *et al.*, 1988a and 1988b). It occurs on the most rocky and shallow soil sites and is both subalpine and alpine in distribution (Photo 5).

A dry subalpine/alpine steppe community of *Poa rupicola*(?)-*Erigeron compositus* occurs on the exposed upper slopes of the area (Billings, 1978 and 1988). The community is open with a rocky soil surface.

The highest wind-swept slopes are occupied by an alpine forbland dominated by *Artemisia frigida*-*Phlox pulvinata* (Billings, 1978 and 1988). Rock cover is greater than vegetative cover in this community, but diversity of plant species is relatively high. Some other alpine plant taxa present include *Petrophytum caespitosum*, *Eriogonum ovalifolium*, *Festuca brachyphylla*, *Astragalus kentrophyta*, *Trisetum spicatum*, and *Potentilla diversifolia* (Photo 6).

No federally listed or candidate species for threatened or endangered status are known to occur within the Cleve Creek Baldy area (Nevada Natural Heritage Program, personal communication). However, a category 2 plant candidate, *Silene nachlingerae*, occurs adjacent to the area about 0.8 km (0.5 mi) east and 6.5 km (4 mi) west of Cleve Creek Baldy. Suitable habitat for the rare plant was encountered within the area, although

the species was not seen.

### **Size and Boundary**

A recommended ecological boundary for the proposed Cleve Creek Baldy Research Natural Area is given in Map 2. This boundary primarily follows contour lines which define the upper subalpine and alpine communities in the immediate Cleve Creek Baldy area. It is composed of the alpine crest and adjacent slopes with gentle to steep grades. These slopes drain west and east into the Steptoe Creek and Cleve Creek watersheds, respectively. Any subsequent legal boundary used to more conveniently describe and manage the area should encompass the entire recommended ecological boundary.

The size of the recommended area is approximately 160 ha (400 ac). This is a relatively small area for an RNA. Essentially no surrounding area has been included to help shield the alpine lands from management prescriptions that are manifestly different from RNA management guidelines. Additional subalpine lands could be incorporated into the boundary for this purpose if the permittee holders and district personnel agreed to restrict grazing to lower elevations. This would incorporate more acreage of mature Engelmann spruce forest stands.

### **Suitability for Research Natural Area Candidacy**

The Cleve Creek Baldy area is well-suited for the research natural area designation for several reasons. The area harbors several subalpine and alpine plant communities in good condition which are in need of receiving representation in the RNA network. The plant communities are floristically dissimilar and structurally different compared to similar subalpine and alpine communities already represented in the network.

The area meets the minimum size requirement and is in good condition with inconsequential evidence of human-caused disturbances. Access to the area is easy so future research and educational activities could be conducted with relative comfort.

There appear to be no serious conflicts with other uses in the area. Recreational use is light. Mineral potential and forage production are low. Wildlife is abundant and RNA designation would be compatible with its management. Commercial timber is non-existent. Finally, district-level staff were essentially supportive of the special designation and voiced no substantive management concerns.

There is an argument which might be made against RNA designation of the Cleve Creek Baldy area. It lies in close proximity to the North-South Schell Peaks area which is also being considered for research natural area status for alpine ecosystems. The Cleve



Creek Baldy area is much smaller in size than the North-South Schell Peaks area and, consequently, has a much smaller alpine area. However, Cleve Creek Baldy has subalpine Engelmann spruce forest stands that are not represented in the North-South Schell Peaks area. Therefore, the counter-argument is that it provides different representative communities that are easily accessed for research and should be pursued for these reasons.

## Recommendations

The Cleve Creek Baldy area qualifies for and is deserving of the RNA designation. Consequently, I recommend that the Intermountain Station/Region 4 RNA Committee formally nominate the Cleve Creek Baldy candidate Research Natural Area to the Regional Forester.

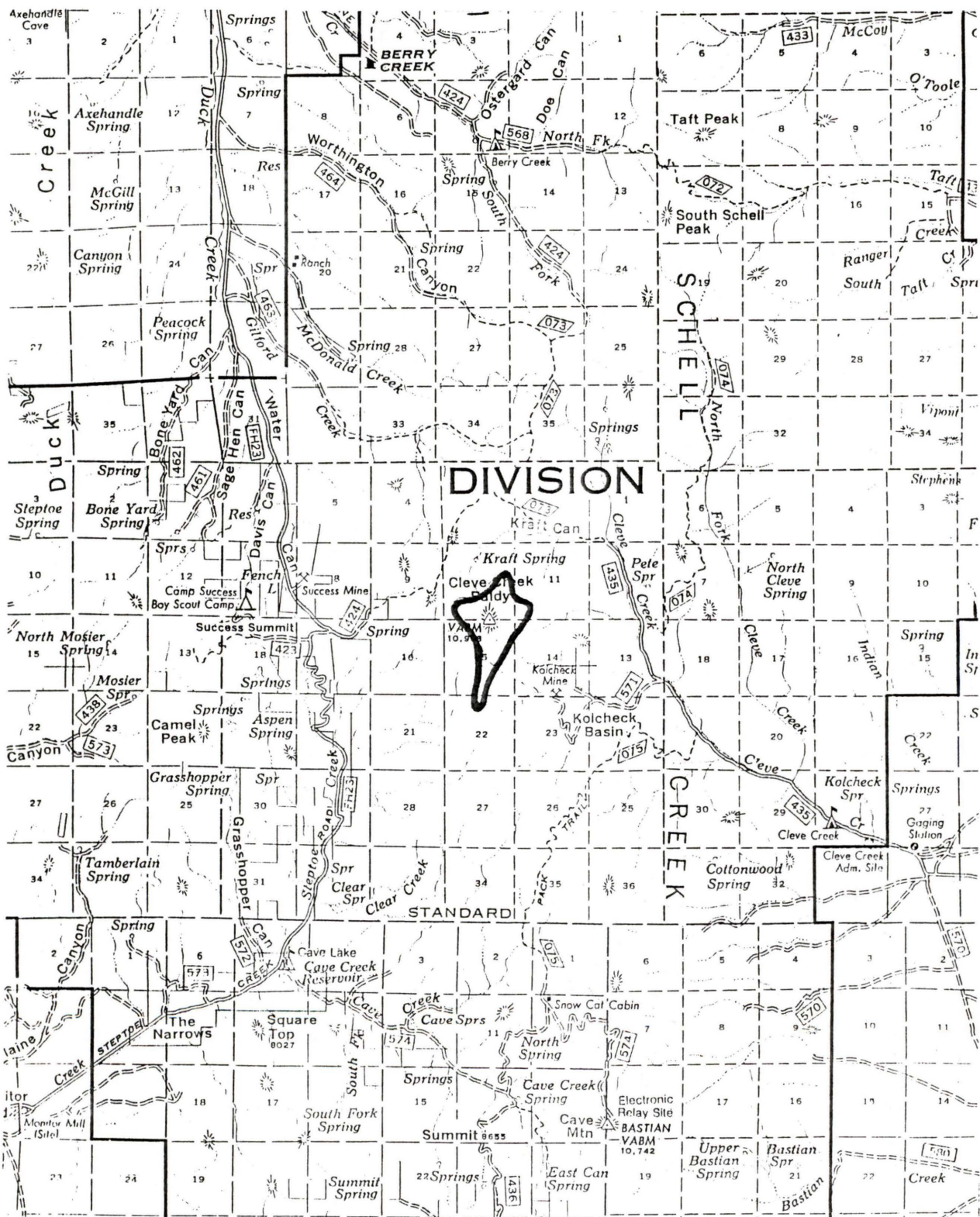
In addition, the INT/R4 RNA Committee should plan for the timely completion of an establishment record for the candidate RNA. Field work done for the establishment record should be an in-depth survey to more fully describe and classify the plant communities present. This field work should also determine if any federally listed or candidate species for threatened or endangered status occur within the Cleve Creek Baldy area.

Finally, I recommend that this reconnaissance report be made available to the Ely Ranger District so that they may use its contents to complete an environmental assessment of the RNA designation action. This is a necessary step to comply with the National Environmental Policy Act and timely action now will prevent delays in the establishment process later.

## Literature Cited

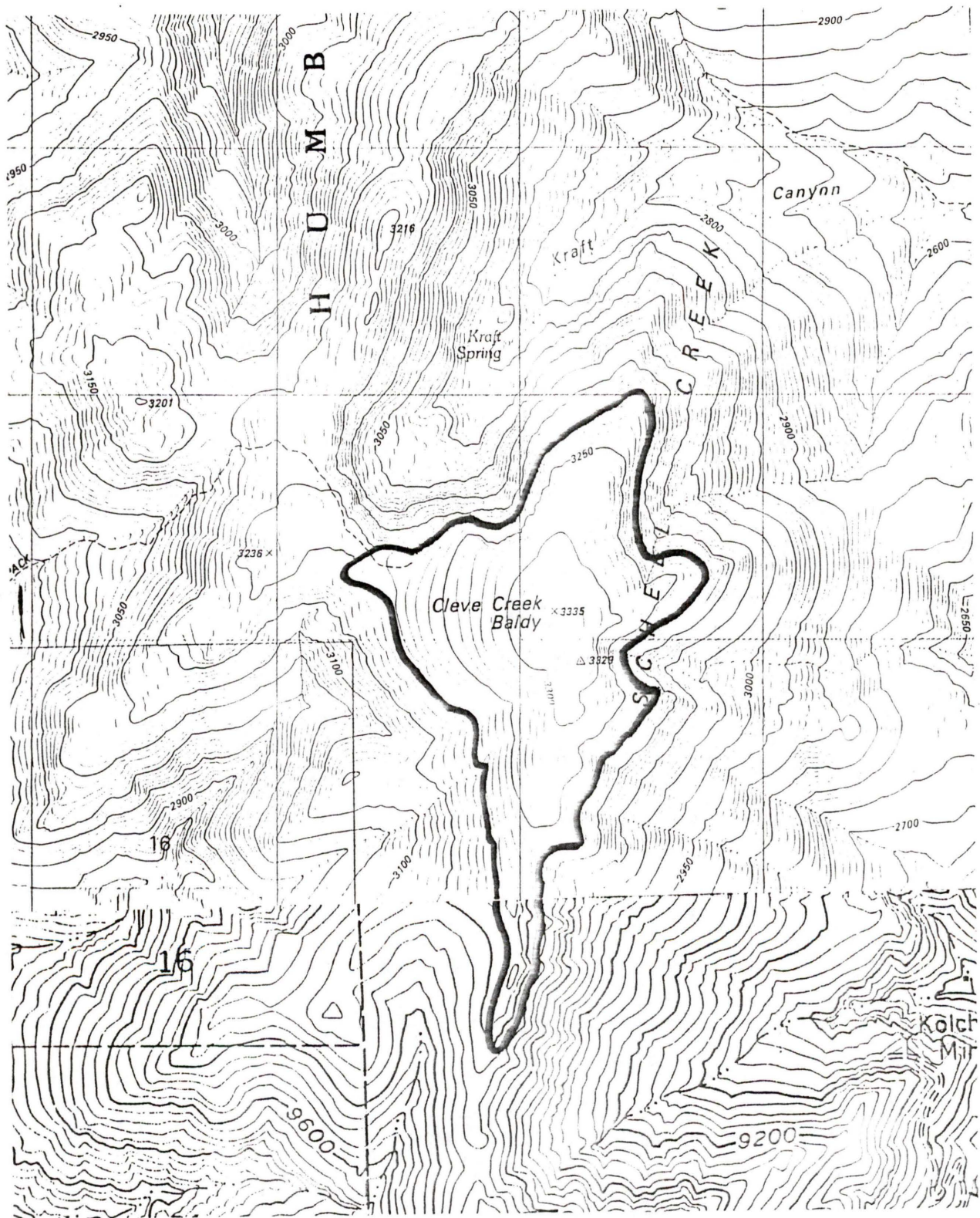
- Billings, W.D. 1978. Alpine phytogeography across the Great Basin. Great Basin Naturalist Memoirs 2: 105-117.
- Billings, W.D. 1988. Alpine Vegetation. In: M.G. Barbour and W.D. Billings (eds), North American Terrestrial Vegetation.
- Cronquist, A., A.H. Holmgren, N.H. Holmgren, and J.L. Reveal. 1972. Intermountain Flora: vascular plants of the intermountain west, U.S.A. Vol. 1. Hafner Publ. Co., New York, NY. 270 pp.
- Eyre, F.H. (ed.) 1980. Forest cover types of the United States and Canada. Society of American Foresters, Washington, D.C. 148 pp.

- Fenneman, N.M. 1931. Physiography of the western United States. McGraw-Hill Book Co. New York, NY.
- Jensen, M.E., L.S. Peck, and M.V. Wilson. 1988a. Vegetation characteristics of mountainous northeastern Nevada sagebrush community types. Great Basin Naturalist 48: 403-421.
- Jensen, M.E., L.S. Peck, and M.V. Wilson. 1988b. A sagebrush community type classification for mountainous northeastern Nevada rangelands. Great Basin Naturalist 48: 422-433.
- Mooney, M.J. 1985. A preliminary classification of high-elevation sagebrush-grass vegetation in northern and central Nevada. MS thesis. Univ. of Nevada, Reno. 123 pp.
- McLane, A.R. 1978. Silent cordilleras: the mountain ranges of Nevada. Camp Nevada Monogr. No. 4, Reno, NV. 118 pp.
- U.S. Department of Agriculture. 1984. Regional guide for the Intermountain region. Forest Service, Intermountain Region, Ogden, UT. 125 pp.
- Van Pelt, N.S. 1982. Research natural area needs in Nevada and Utah: a first estimate. The Nature Conservancy, Western Regional Office, San Francisco, CA. 153 pp.



Map 1. General location of the Cleve Creek Baldy area (USDA Ely Ranger District at 1/2 inch/mile).





Map 2. Proposed boundary of the Cleve Creek Baldy area recommended for a subalpine and alpine Research Natural Area (USGS 1:25,000 Cleve Creek Baldy and 1:62,500 Conners Pass).





Photo 5. Windswept area at about 3,300 m (10,825 ft) just north of Cleve Creek Baldy summit. The "bald" aspect of this area is the result of low growing subalpine-alpine shrublands dominated by *Haplopappus macronema* or *Artemisia arbuscula* and bunchgrasses. The larger clumps are stunted Engelmann spruce and limber pine growing at their upper environmental limits.

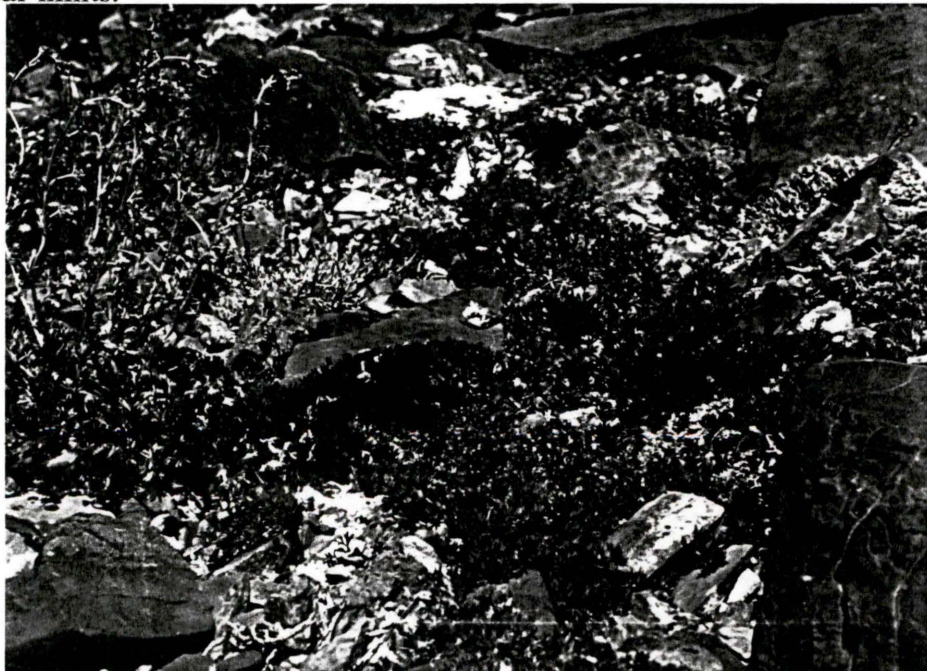


Photo 6. Close-up view of the summit area of Cleve Creek Baldy at 3,335 m (10,942 ft) dominated by an alpine forbland. Dominants include *Artemisia frigida*, *Phlox pulvinata*, *Poa rupicola*, and *Erigeron compositus*.





Photo 3. View into Kraft Canyon showing a subalpine Engelmann spruce forest on the steep topography near the recommended NW boundary of the area. The background shows distant slopes of the Schell Creek Range with a mozaic of mountain sagebrush, mountain mahogany, quaking aspen, and Engelmann spruce communities.



Photo 4. Area to the north of Cleve Creek Baldy summit. Foreground is a subalpine shrubland of *Haplopappus macronema*-*Agropyron spicatum* and background is a Engelmann spruce-prickly gooseberry closed forest stand.





Photo 1. Subalpine forest of *Picea engelmannii* and *Pinus longaeva* along Forest Trail 073 near the saddle on the west side of the recommended boundary of the RNA.



Photo 2. View ENE within the Cleve Creek Baldy area. Foreground shows an *Artemisia tridentata* ssp. *vaseyana*-*Agropyron spicatum* community with shrubs killed by winter cold. Midground is a shrubland dominated by *Haplopappus macronema*, while the left background shows an open stand of *Picea engelmannii*-*Ribes montigenum*.